

### REMARKS

The examiner is thanked for the performance of a thorough search and for considering the references included in the Information Disclosure Statements filed on August 12, 2005 and on August 16, 2004.

Claims 1-3 and 16-18 have been amended. Claims 19-21 have been added. No claims have been canceled. Claim 16 has been amended to depend from independent Claim 1, and Claim 18 has been amended to depend from independent Claim 17. New Claims 19 and 20 depend from Claim 1, and new Claim 21 is independent. Hence, independent Claims 1, 17, and 21, and dependent claims 2-16 and 18-20, are pending in the present application.

Each issue raised in the Office Action mailed November 2, 2005 is addressed hereinafter.

#### I. ISSUES RELATING TO THE CITED ART

##### A. INDEPENDENT CLAIM 1

Claim 1 has been rejected under 35 U.S.C. § 102(b) as allegedly anticipated by Martinez et al., U.S. Patent No. 5,790,782 (“MARTINEZ”). The rejection is respectfully traversed.

Claim 1 includes the features of:

...  
**wherein the two or more input connectors are disposed on a bottom plane of the stackable unit and the two or more output connectors are disposed on a top plane of the stackable unit, wherein the bottom plane and the top plane are vertically spaced apart;**  
means for communicatively coupling the first input connector and the second output connector;  
**wherein the first output connector is aligned substantially vertically with the first input connector and the second output connector is aligned substantially vertically with the second input connector, but the second output connector is not aligned substantially vertically with the first input connector;**  
....

The features of Claim 1 highlighted above indicate that the output connectors and the input connectors are vertically spaced apart. Further, in Claim 1 the first output connector is aligned

substantially vertically with the first input connector, and the second output connector is aligned substantially vertically with the second input connector. However, the input connector and the output connector that are communicatively coupled are **vertically and laterally** spaced apart and are **NOT vertically aligned**. One embodiment of this feature is illustrated in FIG. 1 of the present application. As can be seen in FIG. 1, input connector 120A and output connector 110B are communicatively coupled by link 102; however, input connector 120A and output connector 110B are vertically and laterally spaced apart and are NOT vertically aligned. It is respectfully submitted that MARTINEZ does not teach or suggest this feature of Claim 1.

As shown in Fig. 1 of MARTINEZ, each shelf in a multi-shelf disk cabinet “is provided with a **pair of lower-disposed and redundant input ports or connectors 15**, and a **pair of upper-disposed and redundant output ports or connectors 16**.” (Col. 4, lines 18-21; emphasis added.) Further, with respect to Fig. 1, MARTINEZ teaches that “the adjacent shelf ports 15, 16 are **connected by** of a short length, 2-wire, **cable 17** that prevents an inadvertent misconnection **between the output port of a lower shelf and a port of another shelf**.” (Col. 4, lines 26-30; emphasis added.)

Thus, in MARTINEZ the input connector and the output connector, which the Office Actins asserts are communicatively connected, belong to two **different and separate adjacent shelves**. Further, as can be easily seen in Fig.1 of MARTINEZ, the coupled input and output connectors are **vertically aligned**. For example, consider SHELF-2 that is depicted in Fig. 1 of MARTINEZ. SHELF-2 includes a pair of lower-disposed input connectors 15 and a pair of upper-disposed output connectors 16. The pair of lower-disposed input connectors 15 of SHELF-2 are each connected by cables 17 to one of a pair of output connectors 16 of SHELF-1; in addition, each input connector 15 of SHELF-2 **is vertically aligned** to the output connector 16 of SHELF-1 to which it is connected. Similarly, the pair of upper-disposed output connectors 16

of SHELF-2 are each connected by cables 17 to one of a pair of input connectors 15 of SHELF-3; in addition, each output connector 16 of SHELF-2 is **vertically aligned** to the input connector 15 of SHELF-3 to which it is connected. Thus, in general MARTINEZ teaches that an output connector of one shelf is connected by cable to an input connector of a different shelf, where the connected input and output connectors **are vertically aligned**.

In contrast, Claim 1 features that the first output connector of a stackable unit is aligned substantially vertically with the first input connector of the same stackable unit, and that the second output connector of the same stackable unit is aligned substantially vertically with the second input connector of the same stackable unit, where the communicatively coupled first input connector and second output connector are not vertically aligned. In an arrangement where there are multiple input and output connectors, it is useful to link connectors that are not vertically aligned in order to physically limit the number of devices that can be stacked on a base unit.

For the reasons given above, MARTINEZ does not teach all of the features of Claim 1. Thus, Claim 1 is patentable under 35 U.S.C. § 102(b) over MARTINEZ. Reconsideration and withdrawal of the rejection of Claim 1 are respectfully requested.

B. INDEPENDENT CLAIM 17

Claim 17 has been rejected under 35 U.S.C. § 102(b) as allegedly anticipated by MARTINEZ.

Claim 17 includes features similar to the features of Claim 1 discussed above. For this reason, it is respectfully submitted that Claim 17 is patentable under 35 U.S.C. § 102(b) over MARTINEZ for at least the reasons given above with respect to Claim 1. Reconsideration and withdrawal of the rejection of Claim 17 are respectfully requested.

C. DEPENDENT CLAIMS 16 AND 18

Claims 16 and 18 have been rejected under 35 U.S.C. § 102(b) as allegedly anticipated by MARTINEZ.

Claims 16 and 18 depend from independent Claims 1 and 17, respectively, and thus include each and every feature of the corresponding independent claim. Thus, each of Claims 16 and 18 is allowable for at least the reasons given above for Claims 1 and 17.

In addition, Claims 16 and 18 include the features of: a stackable unit with **three or more** output connectors; and determining which signal is provided to a particular unit of a plurality of stackable units disposed above the stackable unit by **determining through which output connector a particular signal is being provided**. In contrast, MARTINEZ does not teach anything that is equivalent to these features of Claims 16 and 18.

First, MARTINEZ does not teach or describe that any shelf in MARTINEZ's multi-shelf disk cabinet has more than two output connectors. In contrast, Claims 16 and 18 include the feature of a stackable unit with three or more output connectors.

Second, MARTINEZ does not teach or suggest that a determination of which signal is distributed to which shelf can be made based on the **identity of the output connector** through which the signal is being provided. MARTINEZ describes a technique for assigning an address to a particular shelf in a multi-shelf disk cabinet, where the address is based on a digitized magnitude of the analog voltage that is passed to the particular shelf from the shelf below it. (See MARTINEZ, col. 2, lines 51-60.) Further, although the shelves in MARTINEZ do not have more than two output connectors (see FIG. 1), addresses can be provided to a plurality of M shelves, where M is greater than two (see FIG. 1; col. 2, lines 51-60). Thus, since a shelf in MARTINEZ has only two output connectors (one of which is provided for redundancy

purposes!), in MARTINEZ it is impossible to determine to which shelf a signal is provided based on the identity of an output connector of a particular shelf.

For the reasons given above, MARTINEZ does not teach all of the features of Claims 16 and 18. Thus, Claims 16 and 18 are patentable under 35 U.S.C. § 102(b) over MARTINEZ. Reconsideration and withdrawal of the rejection of Claims 16 and 18 are respectfully requested.

D. NEW INDEPENDENT CLAIM 21

New independent Claim 21 comprises the features of four or more input connectors and four or more output connectors. It is respectfully submitted that neither MARTINEZ nor the other cited references teaches, describes, or suggests these features of Claim 21. Thus, for at least this reason, Claim 21 is allowable over the cited art.

E. NEW CLAIM 19

Claim 19 depends from independent Claim 1, and thus includes each and every feature of Claim 1. Thus, Claim 19 is allowable for at least the reasons given above for Claim 1.

In addition, Claim 19 comprises an apparatus in a stackable unit, where a first signal carried by the first input connector is transmitted through the second output connector for consumption by a different stackable unit, and wherein a second signal carried by the second input connector is consumed by the stackable unit itself. Thus, the two input connectors in Claim 19 provide separate and distinct functionalities.

In contrast, MARTINEZ does not describe a shelf with two input connectors, where the signal carried by one connector is consumed solely by the shelf, and the signal carried by the other connector is transmitted through an output connector for consumption by a different shelf. MARTINEZ teaches that a shelf in a multi-shelf disk cabinet includes a pair of redundant input ports or connectors. (See at least FIG. 1; col. 4, lines 18-21 and 53-55.) In other words, in a MARTINEZ shelf the two input connectors provide the SAME redundant functionality. Thus,

MARTINEZ cannot possibly teach or suggest the feature of Claim 19, in which the two input connectors provide separate and distinct functionalities.

For the reasons given above, Claim 19 is patentable over MARTINEZ.

F. NEW CLAIM 20

Claim 20 depends from independent Claim 1, and thus includes each and every feature of Claim 1. Thus, Claim 20 is allowable for at least the reasons given above for Claim 1.

In addition, Claim 20 recites that the number of the two or more input connectors determines the maximum number of stackable units to which the stackable unit is capable of distributing signals.

In contrast, in MARTINEZ each shelf has two input connectors, and the two input connectors of each shelf can provide voltage to an arbitrary number of M shelves that are disposed above that shelf. (See at least MARTINEZ, Fig. 1 and col. 2, lines 51-59.) For this reason, MARTINEZ cannot possibly teach or suggest the feature of Claim 20.

For the reasons given above, Claim 20 is patentable over MARTINEZ.

G. DEPENDENT CLAIMS 2-15

Claims 4-13 have been rejected under 35 U.S.C. § 102(b) as allegedly anticipated by MARTINEZ. Claims 2-3 have been rejected as allegedly unpatentable under 35 U.S.C. § 103(a) over MARTINEZ in view of Milan, U.S. Patent No. 6,843,684 (“MILAN”). Claims 14-15 have been rejected as allegedly unpatentable under 35 U.S.C. § 103(a) over MARTINEZ in view of Rapport et al., U.S. Patent No. 6,955,945 (“RAPPORT”).

Claims 2-15 depend from independent Claim 1, and thus include each and every feature of Claim 1. Furthermore, in rejecting Claims 2-3 and 14-15 the Office Action relies explicitly on MARTINEZ, and not on MILAN or RAPPORT, to support prior disclosure of the features discussed above with respect to Claim 1. Thus, any combination of MARTINEZ with the other

two references necessarily fails to teach the subject matter of Claims 2-15. Therefore, each of Claims 2-15 is allowable for the reasons given above for Claim 1. In addition, each of Claims 2-15 introduces one or more additional features that independently render it patentable. However, due to the fundamental differences already identified, to expedite the positive resolution of this case a separate discussion of these features is not included at this time. It is therefore respectfully submitted that Claims 2-15 are allowable for at least the reasons given above with respect to Claim 1. Reconsideration and withdrawal of the rejections of Claims 2-15 are respectfully requested.

## II. CONCLUSION

The Applicants believe that all issues raised in the Office Action have been addressed. Further, for the reasons set forth above, the Applicants respectfully submit that allowance of the pending claims is appropriate. Reconsideration of the present application is respectfully requested in light of the amendments and remarks herein.

The Examiner is respectfully requested to contact the undersigned by telephone if it is believed that such contact would further the examination of the present application.

A petition for extension of time, to the extent necessary to make this reply timely filed, is hereby made. If applicable, a law firms check for the petition for extension of time fee is enclosed herewith. If any applicable fee is missing or insufficient, throughout the pendency of

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this application, the Commissioner is hereby authorized to charge any applicable fees and to credit any overpayments to our Deposit Account No. 50-1302.

Respectfully submitted,

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